Remarks

Reconsideration of this Application is respectfully requested.

Claims 29, 31-39, and 41-48 are pending in the application, with claims 29 and 39 being the independent claims. Claims 29 and 39 have been amended to address minor grammatical and formal errors, without affecting the substantive content of the claims. Claims 29 and 39 have been further amended to include the elements previously recited in claims 30 and 40, respectively. These changes are believed to introduce no new matter, and their entry is respectfully requested. Claims 30 and 40 have been cancelled without disclaimer of or prejudice to the material contained therein.

Based on the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections Under 35 U.S.C. § 102

Applicant notes that on page 3 of the Office Action, the Examiner has indicated that claims 29-34 and 39-<u>48</u> are rejected under 35 U.S.C. § 102(e); however, on page 6 of the Office Action, in paragraph 5, the Examiner states: "Claims 39-<u>44</u> are method claims analogous to the system claims 29-34, and therefore, are rejected following the same reasoning." As the Examiner has provided § 102(e) rejections of claims 29-34 (and *not* of claims 35-38), and as it is in fact the case that claims 39-44 are the claims analogous to 29-34, Applicant assumes that the Examiner's 35 U.S.C. § 102(e) rejection applies to claims 29-34 and 39-44, and *not* to claims 45-48. Further text in this reply is based on that assumption.

Claims 29-34 and 39-44 are rejected under 35 U.S.C. § 102(e) as being allegedly

anticipated by U.S. patent 6,574,742 to Jamroga et al. ("Jamroga et al."). For the reasons

set forth below, Applicant respectfully traverses this ground of rejection.

Claim 29

The Examiner argues that:

> The CPA teaches that each participant institution and satellite location have
> "computers, computer networks, terminals, input/output devices, transceivers or
> the like (not shown) for transmitting and receiving digital data and information"
> (column 7 lines 51-56) over communications links which can be wireless
> (column 7 lines 46-50). Therefore, it is asserted that these devices include
> wireless devices which can be hand-held as asserted in claim 30, as these are
> devices that communicate via wireless links. (Office Action, page 2-3)

Applicant respectfully submits that Jamroga, et al. does not teach or suggest each

and every feature of independent claim 29. Specifically, Jamroga et al. neither teaches

nor suggests three essential elements recited in claim 29:

- That the wireless communications appliances are hand-held communications
  devices such as PDAs, cell phones, pagers, etc.

- That the VPN controls access to the hand-held, wireless personal
  communications appliances.

- That the VPN establishes a VPN tunnel.

Hand-Held Communications Appliances

Applicant respectfully points out that Jamroga et al. does not teach or suggest

hand-held wireless communications appliances. Column 7, lines 45 to 50, of Jamroga et

al., which are cited by the Examiner, state:

> "Links 20-28 are communications lines, however, it is understood that
> dedicated wire or wireless links may also be used. It is understood that by "wire"
> is meant any physical connection, whether by optical fiber, coaxial cable, twisted

pair or otherwise, and that by "wireless" is meant cellular, microwave, IR, laser or any other non-physical connection."

The disclosed communications lines are used to maintain communications between "*Links 20-28*". In Figure 1 of Jamroga et al., *link 20* is illustrated as being between a "Participant Institution" and a "Central Database", *link 24* is illustrated as being between one "Participant Institution" and another "Participant Institution", *link 25* is illustrated as being between one "Central Database" and another "Central Database", and *link 28* is illustrated as being between a "Participant Institution" and a "Participant Institution Satellite Location".

Similarly, in column 7, lines 18 to 43, Jamroga et al. states:

> "Each line on FIG. 1 schematically depicts a communication link in method and device 10. The diagonal line or *lines 20* represent communications links between *participant institutions* 14 and the *central database* 12 (or databases).... The vertical line 25 between the *central databases* 12 represents communication links utilized to transfer digital data and images between the *various remotely located central databases* 12. The horizontal and vertical *lines 24* between *participant institutions* 14 represent communication links utilized to transfer digital data and images between the various *institutional participants*.... Horizontal *lines 28* between *client institutions* 14 and *client satellite locations* 18 represent communications links utilized to transfer digital data and images between *institution participants* 14 and their various *satellite locations* 18.... The vertical *line 25* between the *central databases* 12 represents a communication link between two or more *central databases* utilized to transfer digital data and images." [Emphasis added.]

The pertinent terms, which are italicized for emphasis in the preceding paragraph, are defined in Jamroga et al. as follows: "By 'participant institution' is meant hospitals, radiology group practices, physician group practices, medical imaging centers, and other healthcare facilities and organizations. By 'participant satellite locations' is meant physician offices, clinics, diagnostic centers, and other medical and/or healthcare facilities associated with or participating with participant institutions." (Jamroga et al., column 7, lines 11 to 17)

Applicant respectfully points out that *all the links disclosed by Jamroga et al.,*

are either site-to-site links (e.g., between institution participants 14 and their various

satellite locations 18) *or server links* (e.g., between two or more central databases 12), or

a combination of server-to-site links, as illustrated in FIG. 1 of Jamroga et al.

As these are site-to-site links or site-to-server links, these links, whether wired or

wireless, would be between servers. There is no teaching or suggestion of a wireless link

associated with a hand-held communications appliance.

The Examiner has also cited column 7, lines 51-56, of Jamroga et al.:

> "In this regard, the participant institutions 14 and their satellite locations
> 18 each have computers, computer networks, modalities, terminals, input/output
> devises, transceivers or the like (not shown) for transmitting and receiving digital
> data and information, e.g. by modem, over the communication links."

Applicant respectfully points out that these are client devices used *within* the

"participant institutions 14 and their satellite locations 18" (Jamroga et al. column 7,

lines 51 to 52). While Applicant acknowledges that the term "transceiver" may be

understood, in some contexts, as a wireless device[1], a "transceiver" is nowhere defined in

Jamroga et al. as a wireless hand-held device such as a PDA, cell phone, pager, or

analogous device. In column 9, lines 35-47, Jamroga et al. states:

> " As the delivery instructions are received, verified, validated,
> categorized, packaged and stored to the central database 12, alert messages as
> described below with reference to FIG. 7, are generated by the warehouse server
> 37 for communication along links as described below with reference to FIG. 7, to
> the participant institution informing them of the delivery of the instruction set and
> storage of the data or image. *In this regard, it is understood that the central
> database warehouse server 37, the proxy server 32, and the participant network
> 34 include a wire or <u>wireless transceiver</u> for receiving data for storage and query
> and retrieval requests, and for transmitting alerts and received data and
> information.*" [Emphasis added]

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1 Applicant notes that a transceiver may be part of a wired network as well, such
as part of an Ethernet network. A modem, for example, may be considered a transceiver.

Applicant submits that a "wireless transceiver", as disclosed here, could constitute a microwave tower which transmits or receives long-distance messages over a wide-area network link, or a wireless router which is connected to a desktop PC, etc. These interpretations would be consistent with the site-to-site and/or site-to-database server links (assuming such links to be wireless) that were disclosed in the portion of Jamroga et al. cited above. There is again no teaching or suggestion of a hand-held communications appliance, such as a cell phone or PDA, of the type that would be used for communications directly by a human user, as recited in claim 29 of the present application: "... a first server providing a first virtual private network (VPN) and providing Internet access to client-held wireless communication appliances, the VPN limiting access to a subset of the wireless communication appliances that subscribe to the VPN... *wherein the wireless communication appliances include at least one of a personal digital assistant (PDA), cell phone, two-way pager or other mobile, hand-held, personal communication device.*"

VPN-Controlled Access to the Wireless Communications Appliances

Assuming, arguendo, that the client devices of Jamroga et al. were hand-held devices in the participant institutions or satellite locations, nowhere does Jamroga et al. disclose or suggest *that access to the client devices is controlled by the VPN.* Jamroga et al. only discloses a VPN-secured connection between institutional sites and other institutional sites, or between institutional sites and the database server, but *not* a VPN-secured connection with the client devices.

Referring to FIG. 1, Jamroga et al. column 7 lines 35-56 states:

"These communications links are more preferably direct network connections, but may also include Internet connections, dedicated lines and VPN connections. Links 24 and 28 are discussed in more detail with reference to FIG. 12. The vertical line 25 between the central databases 12 represents a communication link between two or more central databases utilized to transfer digital data and images. Link 25 is discussed in more detail with reference to FIGS. 2 and 5."

"Links 20-28 are communications lines, however, it is understood that dedicated wire or wireless links may also be used. It is understood that by "wire" is meant any physical connection, whether by optical fiber, coaxial cable, twisted pair or otherwise, and that by "wireless" is meant cellular, microwave, IR, laser or any other non-physical connection. In this regard, the participant institutions 14 and their satellite locations 18 each have computers, computer networks, modalities, terminals, input/output devises, transceivers or the like (not shown) for transmitting and receiving digital data and information, e.g. by modem, over the communication links."

As already noted above, all the indicated links over which the disclosed VPN functions are links between institution participants (defined by Jamroga et al. as "hospitals, radiology group practices, physician group practices, medical imaging centers, and other healthcare facilities and organizations"), satellite locations (defined by Jamroga et al. as "physician offices, clinics, diagnostic centers, and other medical and/or healthcare facilities associated with or participating with participant institutions"), links between databases and the institution participants and satellite participants, or links between databases and other databases. In other words, Jamroga discloses VPN connections over site-to-site links or server links.

Jamroga et al., column 5 lines 49-62 states:

"The storage, retrieval and delivery communication device also includes a participant computer server transmitter device for communicating with the system devices located at the database storage facility. This device contains both a transmitter and receiver for receiving and outputting the retrieved, transmitted delivery instruction set and digital data and images. Most preferably, the communication delivery device are both receiver-transmitters for performing each other's functions and comprise input units for adding and changing delivery instruction sets on the database. The system communication device is more preferably an n-customer to 1 server (client/server) system. Each *customer node*

is connected via a communications link (Internet, VPN, VAN, dialup, etc.) to the main database server system." [Emphasis added]

Jamroga et al. nowhere defines the phrase "customer node" or the term "customer", so the usage is ambiguous. However, taken in the context of the immediately preceding sentence and the disclosure as a whole, it is clear that the "customer node" is a "server" which serves as the "system communication device" which then connects to the "main database server system." In other words, the "customer node" is an aggregate term for the Participant Institution and/or the Participant Institution Satellite Location, with a server that connects to the Central Database. There is no teaching or suggestion that the "customer node" is a hand-held client communications device.

Further guidance can be found in the figures in the Jamroga et al. patent. The only figure in Jamroga et al. which illustrates the use of the VPN is FIG. 2, which shows a VPN functioning between a first gateway on the Participant Network 34 side of the network and a second gateway on the Central Database 12 side of the network. The individual workstations or client devices (be they wireless or otherwise) are not illustrated in this figure, although at most for the sake of argument they may be presumed to reside somewhere within the Participant Network 34. Nowhere is it disclosed or illustrated that a VPN tunnel exists between the database servers and individual workstations or other individual client devices. At most, FIG. 2 of Jamroga discloses that a VPN operates between the Gateway 36 on the Participant Network side and the Gateway 36 on the database side.

Further, in FIG. 2 of Jamroga et al., the Proxy Server 32 which is connected to Participant Network 34 is not illustrated with VPN software or hardware running on it.

Atty. Dkt. No. 2222.4350002

In summary, Jamroga et al. does not provide any detailed disclosure of the network structure of the intranet used by the Participant Institution and/or the Participant Institution Satellite Location; and to the extent that Jamroga et al. shows a Proxy Server as the external interface to the Participant Network, there is no teaching or suggestion that a VPN is running on this Proxy Server.

The present Application discloses a detailed architecture of a VPN Intranet within the WDMS. FIG. 3 and related detailed discussion of the invention clearly disclose that the wireless base stations 30 (to which the wireless hand-held devices 10 are connected) are in turn connected to the VPN-controlled Wireless Proxy Server 60, enabling a VPN Tunnel 75 between the wireless hand-held devices and the Database Server 100 on the other side of the VPN Tunnel 75. This is a feature of the claimed invention, as recited in claim 29:

> "a first server providing a first virtual private network (VPN) and providing Internet access to client-held wireless communication appliances, the VPN limiting access to a subset of the wireless communication appliances that subscribe to the VPN; and
> a second server providing a second VPN with access to the Internet and providing access to one or more databases associated with the subscribing subset of wireless communication devices;
> *wherein operation of the first VPN and second VPN creates a VPN tunnel in the Internet restricted to data addressed to or from the subscribing subset of wireless communication appliances*; and
> wherein the wireless communication appliances include at least one of a personal digital assistant (PDA), cell phone, two-way pager or other mobile, hand-held, personal communication device."

VPN Tunnel

Finally, the present invention establishes a *VPN tunnel* between the wireless communications devices and the database server. As is well-known to persons skilled in the art, it is possible to configure either a connection-oriented VPN, which may employ VPN tunnels, or a connectionless VPN which does not employ VPN tunnels. Each of

these VPN configurations has respective advantages and disadvantages, and represent

distinct means of configuring a secure connection. (See for example *Comparing,*

Designing, and Deploying VPNs, by Mark Lewis, Cisco Press, ISBN 1-58705-179-6,

Chapter 1, page 17. See also *MPLS Virtual Private Networks (VPNs)* (a manual which

accompanies Cisco IOS Software Release 12.2 S), page 2, under the heading *MPLS*

Virtual Private Networks. These documents are attached to the IDS which is included

herewith.)

The present invention teaches a *VPN tunnel* (see for example FIG. 1, FIG. 3, and

FIG. 5 and the associated discussion) and claims a *VPN tunnel*, which is nowhere taught

or suggested in Jamroga et al. The VPN tunnel of the present invention provides the

secure connection between the hand-held wireless communications device and the

database server.

Claim 39

Currently amended independent method claim 39 recites:

> 39.   A method for securing data transfers in a wireless database
> management system, comprising steps of:
> (a)   providing a first server including a virtual private network (VPN)
> and providing Internet access to client-held wireless communication appliances,
> the VPN limiting access to a subset of the wireless communication appliances
> that subscribe to the VPN; and
> (b)   providing a second server including a VPN with access to the
> Internet and providing access to one or more databases associated with the
> subscribing subset of wireless communication devices; and
> c)   operating the first and second server VPNs to create a VPN tunnel
> in the Internet restricted to data addressed to or from the subscribing subset of
> wireless communication appliances;
> wherein the wireless communication appliances include at least one of a
> personal digital assistant (PDA), cell phone, two-way pager or mobile, hand-held
> personal communication device.

For the reasons discussed above in reference to claim 29, Jamroga et al. does not

teach or suggest each and every feature of this claim. Consequently, Jamroga et al. does

not anticipate claim 39.

Summary

Based on the above reasons, the Applicant respectfully submits that Jamroga et

al. does not teach or suggest each and every feature of independent claims 29 and 39, and

therefore does not anticipate claims 29 and 39. Claims 31-34 depend from claim 29 and

therefore are allowable for at least the same reasons as discussed above in regard to

claim 29 and further in view of their own respective features. Claims 41-44 depends

from claim 39 and are therefore allowable for at least the same reasons as discussed

above in regard to claim 39 and further in view of their own respective features.

Claims 30 and 40 have been cancelled, rendering the rejection of those claims

moot. Accordingly, Applicant respectfully requests that the rejection of claims 29, 31-

34, 39 and 41-44 under 35 U.S.C. § 102(e) be reconsidered and withdrawn.

Rejections under 35 U.S.C. § 103

Claims 35-36 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S.

patent 6,574,742 to Jamroga et al in view U.S. patent 6,636,898 to Ludovici et al.

Claims 37-38 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. patent

6,574,742 to Jamroga et al. in view U.S. patent 5,696,898 to Baker et al. Claims 45-48

stand rejected under 35 U.S.C. § 103(a) as being method claims analogous to the system

claims 35-38, and so being obvious in view of the aforementioned patents.

For the reasons set forth below, Applicant respectfully traverses this rejection.

Claims 35 to 38 depend from independent claim 29. For the reasons set forth above, Jamroga et al. does not anticipate claim 29 because it does not teach or suggest each and every feature of that claim. Neither Ludovici et al. or Baker et al., alone or in combination, teach or suggest all the missing elements. Claims 35 to 38 are not rendered obvious by Jamroga et al. for the same reason, and further in view of their own respective features.

Claims 45 to 48 depend from independent claim 39. For the reasons set forth above, Jamroga et al. does not anticipate claim 39 because it does not teach or suggest each and every feature of that claim. Neither Ludovici et al. or Baker et al., alone or in combination, teach or suggest all the missing elements. Claims 45 to 48 are not rendered obvious by Jamroga et al. for the same reason, and further in view of their own respective features.

Accordingly, Applicants respectfully request that the rejection of claims 35 to 38 and 45 to 48 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.
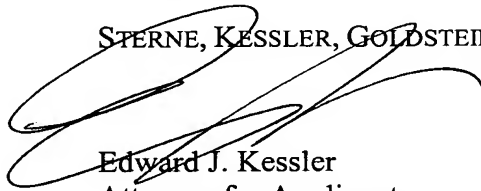
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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